

**Work Order ID 64810**

Friday, December 17, 2010 7:59:38 AM

Page 1

Item ID: D3953-19

Accept

Revision ID:

Item Name: Gas Spring Bracket

Start Date: 12/16/2010 Start Qty: 10.00

Required Date: 1/19/2011 Req'd Qty: 10.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

Draw Nbr

Revision Nbr

D3953

C

100

0.00



Waterjet

Memo

0.00

FLOW CNC Waterjet

304.125

1-Cut as per Dwg D3953

Dwg Rev: C

Prog Rev: C

2-Deburr if necessary

B10-12-23

(19)

110

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

B10-12-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 64810

Friday, December 17, 2010 7:59:38 AM



Page 2

Item ID:	D3953-19	Accept		Setup	Start	
Revision ID:						
Item Name:	Gas Spring Bracket				Stop	
Start Date:	12/16/2010	Start Qty:	10.00			
Required Date:	1/19/2011	Req'd Qty:	10.00			
Reference:						
				Cust Item ID:		
				Customer:		

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start	
	QC:	Date:	SPC (Y/N):	Date:		Stop	

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00 0.00							
130  Small Fab Small Fab	1- CHAMFER HOLE AS PER DWG 2- DEBURR IF NECESSARY  Memo	0.00 0.00							
140  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00 0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries

**Work Order ID 64810**

Friday, December 17, 2010 7:59:38 AM



Page 3

Item ID: D3953-19

Accept



Setup Start



Revision ID:

Item Name: Gas Spring Bracket

Stop



Start Date: 12/16/2010 Start Qty: 10.00



Cust Item ID:

Required Date: 1/19/2011 Req'd Qty: 10.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

150



Packaging

Identify as per dwg & Stock Location: 097

0.00

Memo

0.00

Packaging

160



QC

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

Quality Control

*CK 11/01/05* (19)

*CK 11/01/05*

*BP 11-1-05*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Friday, December 17, 2010 7:59:42 AM

Page 1

Work Order ID: 64810



Parent Item: D3953-19



Parent Item Name: Gas Spring Bracket

Start Date: 12/16/2010

Required Date: 1/19/2011

Start Qty: 10.00

Required Qty: 10.00

Comments: IPP RevA: new issue DD 09.11.30 verified by:EC  
dwg revC DD 10.03.02 verified by:EC  
IPP Rev:B as per

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304S11GA		Purchased	No			100	sf	43.7003	0.018	0.189474			



304/316 0.125 Sheet



18 10-12-23

Location

Loc Qty

Loc Code

MAT

43.7003

114799

11.7003

116437

32

114799

(19)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

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**NOTE:** Date & initial all entries





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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

SHOP COPY  
RETURN TO  
ENGINEERING

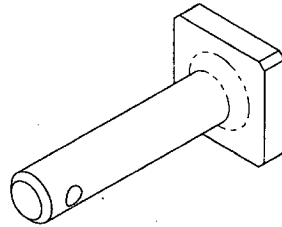
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SUBJECT TO AMENDMENT

WITHOUT NOTICE  
WORK ORDER

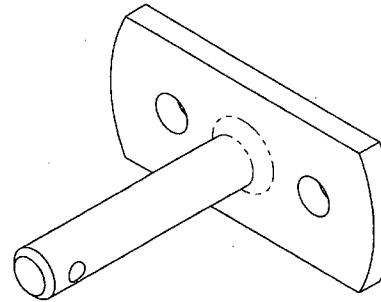
NO. 64810  
2/10/12-17



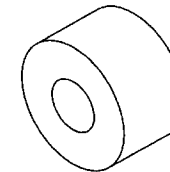
**D3953-1 GAS SPRING BRACKET**  
(FULL LID)



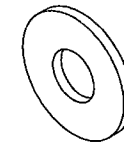
**D3953-3 GAS SPRING STUD, LID**



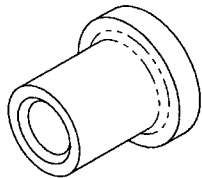
**D3953-5 GAS SPRING STUD, BASE**



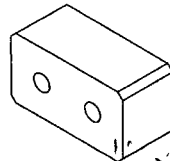
**D3953-7 GAS SPRING SPACER**



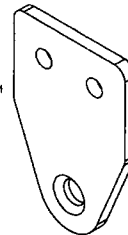
**D3953-9 GAS SPRING WASHER**



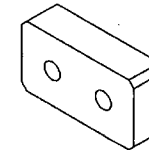
**D3953-11 GAS SPRING SPACER**



**D3953-13 GAS SPRING SPACER**  
(FULL LID)



**D3953-15 GAS SPRING BRACKET**  
(SPLIT LID)

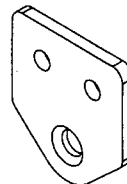


**D3953-17 GAS SPRING SPACER**  
(SPLIT LID)



**D3953-19 GAS SPRING BRACKET**  
(SQUARE BASKET)

RELEASED  
2010-02-26



**D3953-21 GAS SPRING BRACKET**  
(SQUARE BASKET)

C	PARTS -19 & -21 ADDED (SHT 1 & 4); CSK CALLOUT WAS CHAM (C6-2; B6-3; C6-4); & SYMM WAS & SYM ABOUT (C7-2; C7-4); SECTION C-C REPOSITIONED TO B24 REASON: ADDL PARTS REQD. DRAFTING ERRORS	JPH	10.01.29
B	SHEET 3 ZONE C1, DIM 0.05 MIN WAS 0.13, MULTIPLE DIMENSIONS MIN/MAX REMOVED TOLERANCE ADDED REASON: DIFFICULTY INSTALLING COTTER PIN AT NEXT ASSY	AJS	09.11.11
A	NEW ISSUE	AJS	09.07.27
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	JPH		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3953	SHEET 1 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	GAS SPRING LID COMPONENTS	NTS
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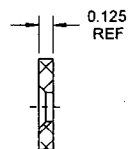
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

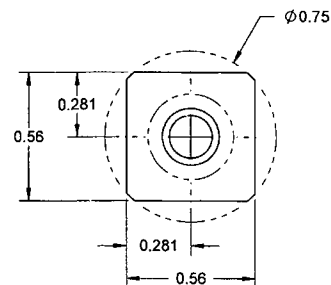
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

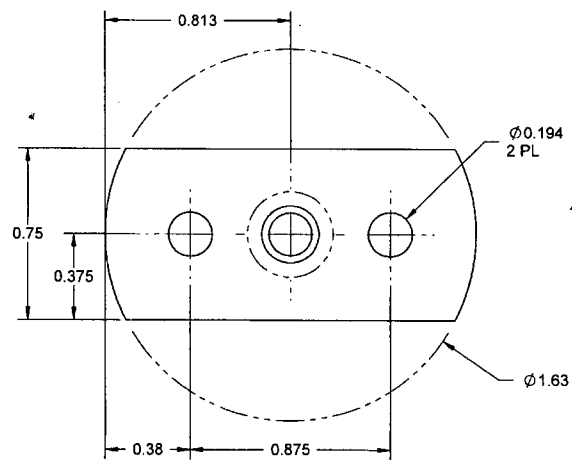
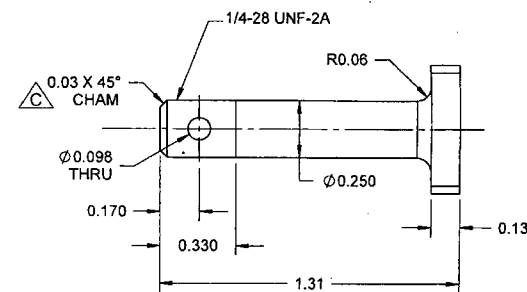
**NOTE:** Date & initial all entries



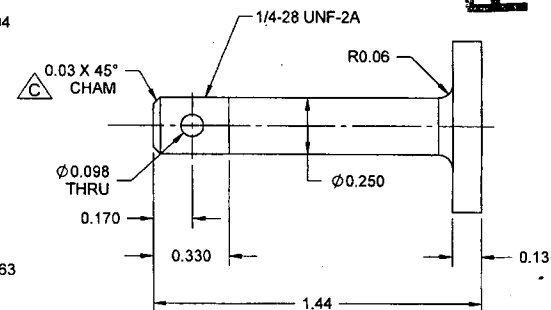
**SECTION A-A<sub>C7-2</sub>**



**D3953-3 GAS SPRING STUD, LID**



**D3953-5 GAS SPRING STUD, BASE**



2010-02-26  
RELEASED

1) MATERIAL -1: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH,  
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240  
REF DART SPEC M304S11GA

-3 & -5: AISI 304 STAINLESS STEEL BAR  
REF DART SPEC M304B  
OR:  
AIS 304/316 STAINLESS STEEL ROD  
REF DART SPEC M304R

2) FINISH: N/A  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) UNITS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER  
7) WEIGHT -1: 0.11 lbs  
          -3: 0.03 lbs  
          -5: 0.06 lbs

DESIGN	AJS	<b>DART AEROSPACE LTD</b>	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D3953	SHEET 2 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	GAS SPRING LID COMPONENTS	NTS
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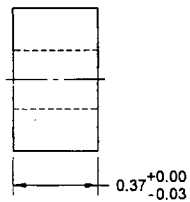
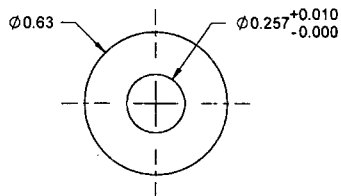
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

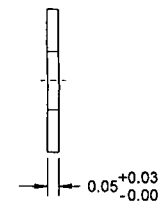
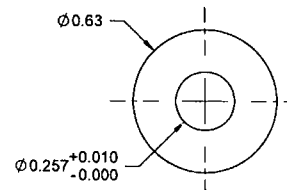
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

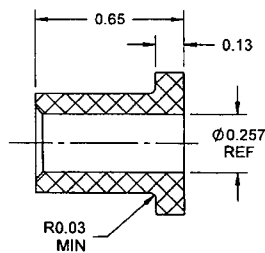
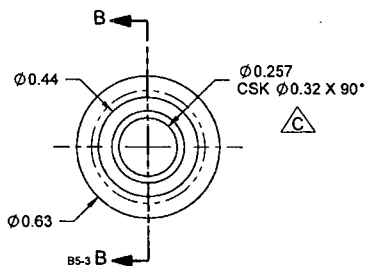
**NOTE:** Date & initial all entries



**D3953-7 GAS SPRING SPACER**

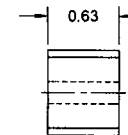
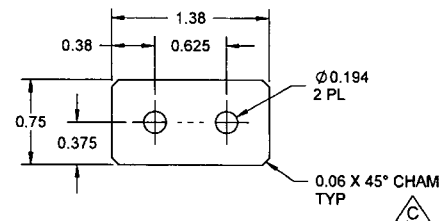


**D3953-9 GAS SPRING WASHER**



**SECTION B-B** B7-3

**D3953-11 GAS SPRING SPACER**



**D3953-13 GAS SPRING SPACER**

**NOTES:**

1) MATERIAL -7, -9 & -11: DELRIN II 150E OR ACETRON GP ACETAL, BLACK  
REF DART SPEC M-DELRIN-R

-13: AISI 304 STAINLESS STEEL BAR  
REF DART SPEC M304B

- 2) FINISH: N/A  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) UNITS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
6) IDENTIFICATION -13 ONLY: IDENTIFY WITH DART P/N "D3953-13" USING FINE POINT PERMANENT INK MARKER  
7) WEIGHT -7/-9/-11: < 0.01 lbs EACH  
-13: 0.17 lbs

W 44810

**RELEASED**  
2010-02-26

DESIGN	AJS	<b>DART AEROSPACE LTD</b>	
DRAWN	JPH	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV: C
MFG. APPR.	<i>[Signature]</i>	D3953	SHEET 3 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
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W/O:		WORK ORDER CHANGES					
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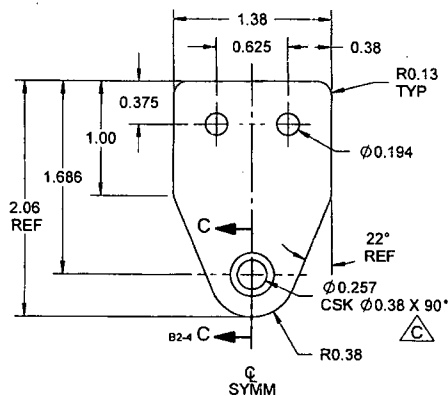
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

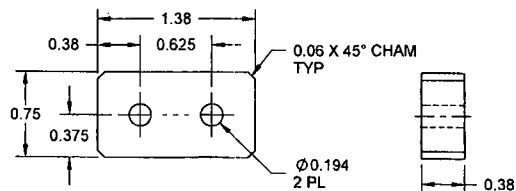
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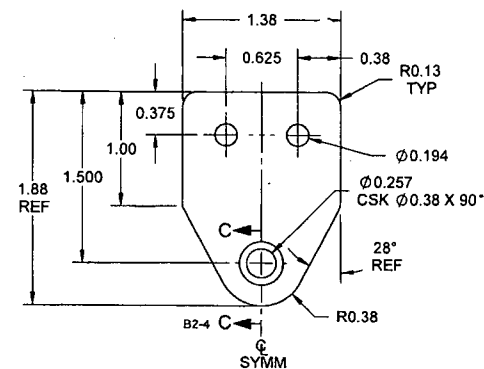




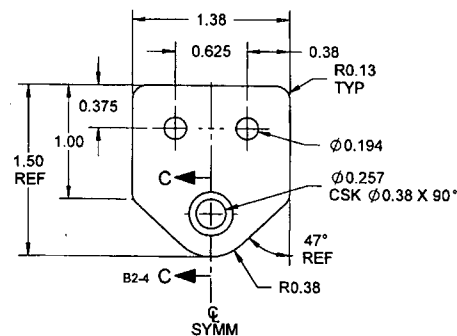
**D3953-15 GAS SPRING BRACKET**  
(SPLIT LID)



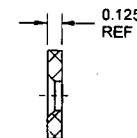
**D3953-17 GAS SPRING SPACER**  
(SPLIT LID)



**D3953-19 GAS SPRING BRACKET**  
(SQUARE BASKET)



**D3953-21 GAS SPRING BRACKET**  
(SQUARE BASKET)



**SECTION C-C**

**NOTES:**

1) MATERIAL -15/-19/-21: 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH,  
PER MIL-S-5059 OR AMS 5513/5524 OR ASTM A240 OR ASME SA240  
REF DART SPEC M304S11GA

-17: AISI 304 STAINLESS STEEL BAR  
REF DART SPEC M304B

2) FINISH: N/A

3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED

4) UNITS: INCHES UNLESS OTHERWISE NOTED

5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX

6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3953-X" USING FINE POINT PERMANENT INK MARKER

7) WEIGHT -15: 0.08 lbs  
-17: 0.10 lbs  
-19: 0.07 lbs  
-21: 0.06 lbs

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

DESIGN	AJS	DRAWING NO.	REV. C
DRAWN	JPH	D3953	SHEET 4 OF 4
CHECKED	<i>[Signature]</i>	TITLE	SCALE
MFG. APPR.	<i>[Signature]</i>	GAS SPRING LID COMPONENTS	NTS
APPROVED	<i>[Signature]</i>		
DE APPR.	<i>[Signature]</i>		
DATE	10.01.29		

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**RELEASED**  
2010-02-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries